The presence of such an occipital operculum implies the existence, in the cerebral hemisphere possessing it, of a sulcus, called by Prof. Elliott Smith the sulcus lunatus, which is strictly comparable to, if not absolutely identical with, the "Affenspalte" so typical of the brains of Simiidæ and Cercopithecidæ.

The examination of cerebral hemispheres of representatives of the lower human races is naturally suggested, and the aborigines of Australia, from several points of view, seem particularly appropriate in this connection. Following up Prof. Elliott Smith's suggestion, I have examined the brains of the aboriginal natives of Australia in the Cambridge Anatomical Museum. As a result, four out of eight hemispheres show plainly the sulcus lunatus and occipital operculum. In one case only is the condition symmetrical in the two hemispheres. The smallest brain of the four bears a sulcus lunatus and operculum on one hemisphere only. Where the sulcus lunatus is interrupted, compensation seems to be provided by deepening of the inferior occipital sulcus.

A Chinese brain in my possession has in each hemisphere a sulcus lunatus.

I shall be much obliged if you can kindly place these observations on record. W. L. H. DUCKWORTH.

November 27.

The Rate of Nerve Impulses.

DR. ALCOCK, in his recent paper at the Royal Society, finds the rate of transmission of nerve impulses in man to be 66 metres per second. Sir Michael Foster, in his "Physiology" (1888, part i. p. 76), gives it as 33 metres per second. The difference is considerable, and places us in a dilemma:—(1) either Sir Michael Foster or Dr. Alcock is widely wrong; or (2) the rate of transmission has become greatly accelerated during the last fifteen years. Of the two, the latter seems to me the simpler explanation.

W. R. GOWERS.

The Leonids of 1903.

OBSERVATIONS were begun on November 15 at 17h. 57m. and continued until daylight rendered further watching useless. In the first five and a half minutes twenty meteors appeared, all but two of which were Leonids, so that the hourly rate of the latter was 200. This period seems to have been about the time of maximum, judging from the results of other observers. Shooting stars now began to diminish in frequency, as the sky was brightening as day approached, but in the half hour comprised between 17h. 57m. and 18h. 35m. (deducting time spent in recording) thirty-six were seen, thirty-four being Leonids. Beyond 18h. 35m. the twilight was too strong to expect to detect meteors, and though the look-out was continued until 18h. 57m. no more appeared.

The display was certainly very fine, Leonids shooting one after the other in various parts of the heavens, the effect being heightened by the crescent moon and Venus, shining resplendently side by side in the south-east. Most of them were bright, the average magnitude being 1 or a little greater. As is usual with the meteors of this shower, they moved swiftly and left streaks. The prevailing colours were blue and yellow.

The radiant point, as indicated by ten registered paths, was at 148°+22°.

The chief observed Leonids were:—

November 15.

Time h. m.	From	To	Mag.
18 7½ ...	139¼ − 6 ...	138 − 9 ...	>1
18 10½ ...	174 +20⅓ ...	179½+19¾ ...	= ♃
18 20 ...	110 + 9 ...	106½+ 7 ...	>Sirius
18 34½ ...	139½+33½ ...	132½+38½ ...	= ♀

On the following night the sky was watched from 12h. 10m. to 14h., but though it was clear most of the time, only two Leonids were observed, and meteors generally were scarce. On November 18, from 18h. 5m. to 18h. 20m. no shooting stars appeared.

These two latter watches bring out an important fact, namely, that the shower very rapidly declined in strength after the maximum had been passed.

Sheffield, November 27. ALPHONSO KING.

ACCOMMODATION OF SCOTTISH SCIENTIFIC SOCIETIES.

IN response to a requisition signed by seven fellows, a special meeting of the Royal Society of Edinburgh was held on the afternoon of Thursday, November 26. There was a large attendance. The president, Lord Kelvin, occupied the chair; and Sir John Murray, seconded by Dr. John Horne, moved the following resolution, that.

"This meeting of the Fellows of the Royal Society resolves to instruct the council to enter into formal communication with the other scientific societies having their headquarters in Edinburgh with the view of concerting measures for obtaining the use of the Royal Institution building wholly and exclusively for Scottish scientific societies."

The resolution was also supported by Prof. Cossar Ewart, Prof. Chiene, Dr. Munro, Dr. Buchan, Prof. Hudson Beare, Sir James Russell, and Prof. Chrystal. The last named, in his official capacity as secretary, referred to the history of the relation between the society and the Board of Manufactures for Scotland; while most of the other speakers spoke from the point of view of the various other societies of which they were members, such as the Royal Scottish Geographical Society, the Royal Society of Arts, the Meteorological Society, the Royal Physical Society, the Geological Society, the Mathematical Society, &c.

All who spoke were unanimous in their opinion as to the importance of the scientific societies having their rooms and libraries in one building. The advantages of such a combination are evident to all interested in the progress of science, and need not be enlarged on in these pages. But there are features peculiar to the present movement which deserve to be widely known. These were touched upon and in many cases emphasised by Sir John Murray and those who supported him.

One of the most striking architectural ornaments in Princes Street is the Royal Institution, erected in 1828. The Royal Society has always occupied the west wing of the building, and the rest is at present mainly devoted to art in the form of a statue gallery and schools of art. Several rooms are used by the officials of the Board of Manufactures, the reorganisation of which forms the subject of an important report recently made by a departmental committee specially appointed. So far as this report has to do with the Royal Society, it is in practical agreement with the claims advanced by that body, as given in the evidence of the secretary, Prof. Chrystal. These were that the society should have increased accommodation for its growing library, and should sit rent free and in perpetuity. It was pointed out by witness after witness before the committee that the building is unsuitable for art, and the committee accordingly recommends the construction of a new building for national galleries and art schools. Should the people of Scotland carry this recommendation into effect, the representatives of art will evacuate the Royal Institution, and the question will arise as to the best use to be made of the rooms. The Royal Society cannot effectively occupy the whole building, and it is under these conditions that Sir John Murray brings forward his plan for the concentration of scientific effort in the capital of Scotland. Very little internal change in the building would make it suitable for the purpose, and there is a large central hall which would serve admirably for scientific meetings of wider scope or of a popular character.

An "equivalent grant" to Scotland of 2000*l.* dates from the Union of the Parliaments, and the Board of Manufactures was appointed shortly after that time to

manage this grant and perform other incidental duties. At first this grant was devoted to the encouragement of woollen and linen manufactures, and of fisheries. Grants have also been made for scientific purposes; but latterly the money has been expended in the interests of archæology and art. In his evidence before the departmental committee, Sir Francis Mowat said that the treasury would gladly give 40,000*l.* in lieu of the 2000*l.* a year. This offer, Sir John Murray thought, should be accepted at once; for it is this 2000*l.* a year (from which science now gets no aid), which has again and again stood in the way of Scotland getting on the estimates for any scientific purpose. Were this done, the 40,000*l.*, together with other funds which have accumulated from the 2000*l.* and are now in the possession of the Board of Manufactures, could be used for building a national gallery and school of art. Although part of this sum should rightly be devoted to science, Sir John Murray was sure that all scientific men would willingly give up this right if they obtained the present Royal Institution building for their various societies.

There is not the least doubt that such a scheme would economise scientific effort, encourage scientific research, and make possible that unity and solidarity of action which is all important whenever any general scientific object is aimed at. C. G. K.

SOME ILLUSTRATIONS OF THE MINUTE IN NATURE.[1]

THIS book is intended to bring a somewhat technical and special subject, but one of great beauty and interest, directly before the general reader. The author dissociates his subject from all scientific methods and processes, and even from the instruments by which the work is done, and is content to direct the reader of fair intelligence simply to results. These are on the whole fairly selected, and presented, pictorially and descriptively, with ability. It is not a

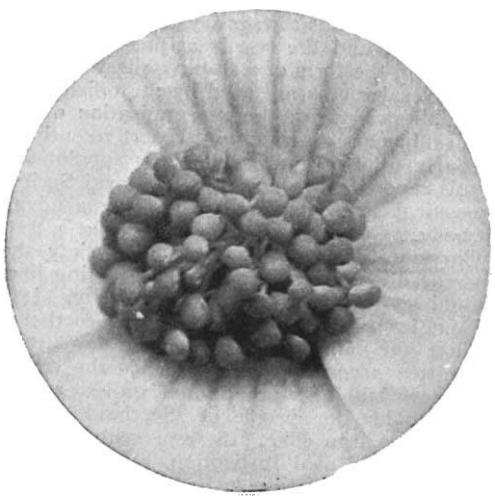

FIG. 1.—The Central Portion of a Male Begonia Flower. From "Minute Marvels of Nature," by J. J. Ward.

book for microscopical workers, however elementary, for it is a mere selection of objects likely to awaken interest in minds unfamiliar with the minute in nature. As might be anticipated, it is only low and moderate magnifying power that is employed in these "revelations," but the photomicrographs are good, and give correct impressions of the objects to those who have never seen them, or are unfamiliar with the use of lenses in the study of nature.

A great deal of space and labour is spent in dealing with the beginnings of plant life and the internal

FIG 2.—Pollen-grains falling from the Stamens of one of the Mallow Flowers (magnified). From "Minute Marvels of Nature," by J. J. Ward.

structure of plants. The illustrations devoted to the former purpose are not always competent, as that on p. 16 shows, which was intended to give an illustration of diatoms in their natural state. To a reader having no idea of what diatoms are, no enlightenment can be obtained from this photomicrograph. Many of the illustrations of diatoms are well done, and it is not at all probable that the reader will obtain from any other source photographs of the elaborate artificial arrangement of diatoms in geometric designs as they are given in this book.

The photographs illustrating plant structure are admirable, and will undoubtedly appeal to the general reader, and at the same time do much to awaken his interest in the hidden things that the microscope so readily reveals.

There is a good chapter, well illustrated, on pollen or flower dust, while some admirable illustrations and instructive writing are given the reader on the subject of insects' eggs. Some of these illustrations are of the first quality, but more care and detail would have greatly enhanced the usefulness of others of no little value in the efficient illustration of the subject. We may specialise Figs. 87 and 89, which were either inefficient photomicrographs or else processed so badly as to have made rejection a necessity. The figure giving the eggs of the small copper butterfly is excellent.

[1] "Minute Marvels of Nature," being some revelations of the microscope exhibited by photomicrographs taken by the author, John J. Ward. Pp. xxiv+272. (London: Isbister and Co., Ltd., 1903.) Price 7*s.* 6*d.*